

REMARKS

In the Office Action mailed on February 27, 2006, claims 1-40 were pending. Claims 29-40 were withdrawn from consideration. Claims 1-28 were rejected.

Claims 1, 11 and 13 have been amended. The proposed amendments do not contain new matter and support can be found in the originally filed specification at paragraph [0014] and in the originally filed claims, among other places. Applicants respectfully request admission of the amended claims.

Claims 10, 14 and 16-28 were cancelled and are no longer pending.

I. Election

In the Office Action, the Examiner stated Applicant's election of Group I (claims 1-26) in Paper No. 12/12/2005 is acknowledged.

II. Rejection under 35 U.S.C. §112

In the Office Action at page 2, claim 7 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner stated that it is not clear what is meant by the term "water-fed pole". A water-fed pole is simply a hollow pole through which water is passed. Applicants believe the term is self explanatory and one skilled in the art would understand the meaning of this term. Applicants respectfully request that the Examiner withdraw this rejection.

III. Rejections under 35 U.S.C. §102

A. Rejection over U.S. Patent No. 6,869,028 ("Bartsch")

In the Office Action at page 3, claims 1-3, 5-10, 13, 15-22 and 24-27 were rejected under 35 U.S.C. §102(b) as being anticipated by Bartsch. The Examiner stated that Bartsch discloses a method for cleaning hard surfaces such as glass, plastic or steel by spraying unpurified water before a washing step and then spraying a cleaning composition on the surface to be hydrophilic and then spraying purified water (conditioned water) on the hydrophilic surface. The Examiner further stated that the reference does not specify the conductance of the purified water, but the conductance is inherently less than the claimed limitations since the water is purified with a resin bed. Applicants respectfully traverse this rejection.

1. The Present Invention

The present invention as recited in amended claim 1 is a method of cleaning a photoactive and/or hydrophilic surface, comprising: contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution wherein the cleaning agent solution consists essentially of at least one of a surfactant and a complexing agent, and contacting the surface with conditioned water.

2. Bartsch

Bartsch discloses a spraying device suitable for spraying cleaning compositions and rinse water onto hard surfaces. The spraying device may be attached to a hose, for example a conventional garden hose, so that the cleaning

composition and rinse water can be applied to outside surfaces, such as vehicles or the outside surface of windows. The spraying device comprises a purifier located inside the cavity of a container and a spray head.

3. Traversal of the Rejection

For a proper rejection under 35 U.S.C. § 102, the cited reference must disclose each and every limitation of the invention. The present invention as recited in amended claim 1 recites contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution wherein the cleaning agent solution consists essentially of at least one of a surfactant and a complexing agent. The surface is photoactive and/or hydrophilic before it is contacted with the cleaning solution.

In contrast to the present invention, Bartsch discloses a spraying device; not a method for cleaning photoactive and/or hydrophilic surface having a contact angle less than 15°. Bartsch discloses that the spraying device can be used to apply a cleaning solution to make a surface hydrophilic and then a water rinse.

In the present invention, the surface is photoactive and/or hydrophilic before it is contacted with the cleaning solution. Before the surface is contacted with the cleaning solution, the surface has a contact angle less than 15. Also, the cleaning solution consists essentially of at least one of a surfactant and a complexing agent.

Bartsch discloses a cleaning solution that includes a hydrophilic surface modifying component (i.e., a component that makes the surface hydrophilic)

because the surface is not hydrophilic before the cleaning solution is applied and becomes hydrophilic as a result of the cleaning step.

The hydrophilic surface modifying component in the cleaning solution of Bartsch is not a surfactant or complexing agent as recited in claim 1 of the present invention. Further, a hydrophilic surface modifying component of Bartsch cannot be included in the cleaning solution of the present invention as recited in claim 1 because the cleaning solution of claim 1 consisting essentially of a surfactant and a coupling agent and not a hydrophilic surface modifying component. Including a hydrophilic surface modifying component would materially affect the performance of the cleaning solution.

Because Bartsch does not anticipate (1) contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution and (2) that the cleaning agent solution consists essentially of at least one of a surfactant and a complexing agent, the reference does not disclose each and every limitation recited in claim 1. As a result, Applicants respectfully request the withdrawal of this rejection.

Claims 2, 3, 5-9, 13 and 15 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how claim 1 is not anticipated by the cited reference, and claims 2, 3, 5-9, 13 and 15 are similarly not anticipated by Bartsch. Specifically, Bartsch does not disclose (1) contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution and (2) that the cleaning agent solution consists essentially of at least one of a surfactant and a complexing

agent as recited in claim 1 as further limited by claims 2, 3, 5-9, 13 and 15. As a result, Applicants respectfully request the withdrawal of this rejection.

B. Rejection over WO-97/48927 ("Hawes")

In the Office Action at page 3, claims 1-3, 5-10, 13, 15-22 and 24-27 were rejected under 35 U.S.C. 102(b) as being anticipated by Hawes. The Examiner stated that Hawes discloses a method of cleaning glass windows by spraying a cleaning composition onto the window surface, preparing a purified rinse water by passing through an ion exchange and rinsing the window surface with the purified rinse water. The Examiner further stated that the reference does not specify the conductance of the purified water, but the conductance is inherently less than the claimed limitations since the water is purified with a resin bed.

Applicants respectfully traverse this rejection.

1. Hawes

Hawes discloses a cleaning composition and method for cleaning exterior windows without filming or spotting. The method includes spraying a cleaning composition onto the window surface, preparing purified rinse water by passing rinse water through an ion exchange resin and rinsing the window surface with the purified rinse water.

2. Traversal of the Rejection

The rule for a section 102 rejection is shown above. The present invention as recited in amended claim 1 recites contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution.

Hawes discloses spraying a cleaning solution on a window and rinsing the cleaning solution using purified water. However, Hawes does not disclose that the window (surface) has a photoactive and/or hydrophilic surface. Specifically, Hawes does not disclose that the window has a contact angle less than 15° before the cleaning solution is applied.

Because Hawes does not anticipate that the window (surface) has a photoactive and/or hydrophilic surface, specifically, that the window has a contact angle less than 15° before the cleaning solution is applied, the reference does not teach each and every limitation recited in claim 1. As a result, Applicants respectfully request the withdrawal of this rejection.

Claims 2, 3, 5-9, 13 and 15-directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how claim 1 is not anticipated by the cited reference, and claims 2, 3, 5-9, 13 and 15 are similarly not anticipated by Hawes. Specifically, Hawes does not disclose that the window (surface) has a photoactive and/or hydrophilic surface, specifically, that the window has a contact angle less than 15° before the cleaning solution is applied as recited in claim 1 as further limited by claims 2, 3, 5-9, 13 and 15. As a result, Applicants respectfully request the withdrawal of this rejection.

C. Rejection over U.S. Patent No. 5,645,737 (“Robinson”)

In the Office Action at page 4, claims 1, 10, 13, 14, 16-19 and 27 were rejected under 35 U.S.C. §102(b) as being anticipated by Robinson. Applicants respectfully traverse this rejection.

1. Robinson

Robinson discloses a surface having an exposed silicon/silica interface cleaned by an hydrofluoric acid dip, followed immediately by a rinse in citric acid, followed by a rinse in deionized water. The deionized water rinse removes the citric acid from the surfaces, leaving a very clean, low particulate surface on both the silica and silicon portions thereof, with little or no etching of the silicon portion.

2. Traversal of the Rejection

The rule for a section 102 rejection is shown above. The present invention as recited in amended claim 1 recites contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution.

Robinson discloses a method of cleaning a surface having an exposed silicon/silica interface. Neither silicon or silica is photoactive and/or hydrophilic. Neither silicon or silicon has a contact angle less than 15°. Thus, the surface treated in Robinson is not the photoactive and/or hydrophilic surface having a contact angle less than 15° as recited in claim 1.

Because Robinson does not anticipate contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning solution, the reference does not teach each and every limitation recited in claim 1. As a result, Applicants respectfully request the withdrawal of this rejection.

Claims 13 and 14 directly or indirectly depend on claim 1 and recite the present invention in varying scope. Applicants have discussed above how claim

1 is not anticipated by over the cited reference, and claims 13 and 14 are similarly not anticipated by Robinson. Specifically, Robinson does not disclose contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning solution as recited in claim 1 and further limited by claims 13 and 14. As a result, Applicants respectfully request the withdrawal of this rejection.

IV. Rejections under 35 U.S.C. §103

A. Rejection over Bartsch or Hawes in view of U.S. Patent No.

6,379,538 (“Corlett”)

In the Office Action at page 5, claims 4, 7 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bartsch or Hawes in view of Corlett. The Examiner stated that Bartsch and Hawes fail to disclose multi-beds of resin, but it would have been obvious to incorporate multi-beds of resin as disclosed by Corlett into the processes of Bartsch or Hawes. Applicants respectfully traverse this rejection.

1. Corlett

Corlett discloses a system for producing deionized water by passing water through multi-beds of resins.

2. Traversal of the Rejection

For a proper rejection under 35 U.S.C. § 103, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some

suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. See In re Fine, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. See Amgen, Inc., 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed Cir. 1991). Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. See In re Wilson, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Claims 4 and 7 depend from claim 1. Therefore, the present invention as recited in claims 4 and 7 require contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution wherein the cleaning agent solution consist essentially of at least one of a surfactant and a complexing agent as recited in claim 1.

It is discussed above why Bartsch does not anticipate the present invention as recited in claim 1. Bartsch does not disclose (1) contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with a cleaning agent solution and (2) that the cleaning agent solution consists essentially of at least one of a surfactant and a complexing agent. Further, there is no teaching or suggestion in Bartsch, either explicit or implicit, to contact the recited surface with the recited cleaning composition. Bartsch explicitly teaches that the cleaning solution includes a hydrophilic surface modifying component. As discussed above, a hydrophilic surface modifying component cannot be

included in the cleaning solution as recited in claim 1 as further recited in claims 4 and 7.

Since the Examiner is using Corlett to teach producing deionized water using a multi-bed resin, the combination of Bartsch and Corlett is a spraying device for spraying a cleaning solution that contains a hydrophilic surface modifying component. The combination of Bartsch and Corlett is in direct contrast to the present invention as recited in claim 1 as further recited in claims 4 and 7 which has a cleaning solution that cannot contain a hydrophilic surface modifying component. For the record, claim 7 does not include a multi-bed resin so it is assumed that the Examiner has erroneously rejected this claim over the combination of Bartsch and Corlett. As a result, the present invention as recited in claim 1 as further recited in claims 4 and 7 is patentably distinguishable over the cited references. Applicants respectfully request the withdrawal of this rejection over Bartsch in view of Corlett.

It is discussed above why Hawes does not anticipate the present invention as recited in claim 1. Hawes does not disclose that the window (surface) has a photoactive and/or hydrophilic surface, specifically, that the window has a contact angle less than 15° before the cleaning solution is applied. Further, there is no teaching or suggestion in Hawes, either explicit or implicit, to contact the recited surface with the recited cleaning composition. There would be no reason to modify the surface of Hawes to be photoactive and/or hydrophilic with a contact angle less than 15° before the cleaning solution is applied based on the teaching of Hawes and Corlett.

Since the Examiner is using Corlett to teach producing deionized water using a multi-bed resin, the combination of Hawes and Corlett does not teach or suggest the present invention as recited in claim 1 as further recited in claims 4, 7 and 23 which has a photoactive and/or hydrophilic with a contact angle less than 15°. As a result, the present invention as recited in claim 1 as further recited in claims 4, 7 and 23 is patentably distinguishable over the cited references. Applicants respectfully request the withdrawal of this rejection over Hawes in view of Corlett.

B. Rejection over Bartsch or Hawes or Robinson

In the Office Action at page 5, claims 11, 12 and 28 were rejected as being unpatentable over Bartsch or Hawes or Robinson. The Examiner stated that the references failed to disclose that the conditioned water is added to the cleaning solution, but it would have been obvious to use deionized water in the cleaning solution to give better cleaning. Applicants respectfully traverse this rejection.

The rule for a rejection under section 103 is shown above. Claims 11 and 12 and 28 depend on claim 1. Claim 28 has been cancelled. It is discussed above why the present invention as recited in claim 1 is patentably distinguishable over Bartsch. Claims 11 and 12 are similarly patentably distinguishable. There is no teaching or suggestion in Bartsch, either explicit or implicit, to contact the recited surface with the recited cleaning composition. Bartsch explicitly teaches that the cleaning solution includes a hydrophilic surface modifying component. As discussed above, a hydrophilic surface modifying

component cannot be included in the cleaning solution as recited in claim 1 as further recited in claims 11 and 12.

Therefore, the teaching of Bartsch is in direct contrast to the present invention as recited in claim 1 as further recited in claims 11 and 12 which has a cleaning solution that cannot contain a hydrophilic surface modifying component regardless of whether or not the cleaning solution includes conditioned water as recited in claim 11, or the type of housing assembly recited in claim 12. As a result, the present invention as recited in claim 1 as further recited in claims 11 and 12 is patentably distinguishable over the cited references. Applicants respectfully request the withdrawal of this rejection over Bartsch.

It is discussed above why the present invention as recited in claim 1 is patentably distinguishable over Hawes. Claims 11 and 12 are similarly patentably distinguishable. There is no teaching or suggestion in Hawes, either explicit or implicit, to contact the recited surface with the recited cleaning composition. There would be no reason to modify the surface of Hawes to be photoactive and/or hydrophilic with a contact angle less than 15° before the cleaning solution is applied based on the teaching of Hawes. As a result, the present invention as recited in claim 1 as further recited in claims 11 and 12 is patentably distinguishable over the cited references. Applicants respectfully request the withdrawal of this rejection over Hawes.

It is discussed above why Robinson does not anticipate the present invention as recited in claim 1. Robinson does not disclose contacting a photoactive and/or hydrophilic surface having a contact angle less than 15° with

a cleaning solution. Robinson discloses a surface having an exposed silicon/silica interface.

Further, there is no teaching or suggestion in Robinson, either explicit or implicit, to contact the recited surface with the recited cleaning composition. There would be no reason to modify the surface of Robinson to be photoactive and/or hydrophilic with a contact angle less than 15° before the cleaning solution is applied based on the teach of Robinson. Robinson explicitly teaches the exposed interface is of a non-photoactive and/or non-hydrophilic surface. The exposed surface is silicon or silica. As a result, the present invention as recited in claim 1 as further recited in claims 11 and 12 is patentably distinguishable over the cited references. Applicants respectfully request the withdrawal of this rejection over Robinson.

Conclusions

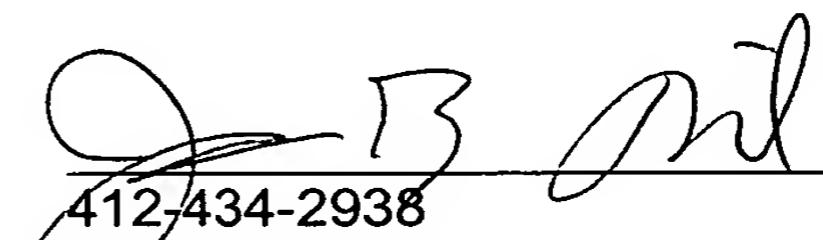
In light of the amendments and remarks presented in this correspondence, Applicants respectfully request withdrawal of the following rejections: the rejection of claim 7 under 35 U.S.C. §§112, second paragraph; the rejection of claims 1-3, 5-10, 13, 15-22 and 24-27 under 35 U.S.C. §102(b) as being anticipated by Bartsch; the rejection of claims 1-3, 5-10, 13, 15-22 and 24-27 under 35 U.S.C. §102(b) as being anticipated by Hawes; the rejection of claims 1, 10, 13, 14, 16-19 and 27 under 35 U.S.C. §102(b) as being anticipated by Robinson; the rejection of claims 4, 7 and 23 under 35 U.S.C. §103(a) as being unpatentable over Bartsch or Hawes in view of Corlett; the rejection of claims 11,

12 and 28 as being unpatentable over Bartsch or Hawes or Robinson and the allowance of claims 1-9, 11-13, and 15.

If any questions remain about this application, the Examiner is requested to contact Applicants' attorney at the telephone number provided below. Thank you.

Respectfully submitted,

JACQUES B. MILES
Registration No. 42,888
Attorney of Record



412-434-2938
Pittsburgh, Pennsylvania
May 30, 2006